

Supplemental Table S1. Identification code and accession link of the butterfly rays (*Gymnura*) Cytochrome Oxidase subunit I (COI) sequences available in the two online databases. Information regarding the geographical location of the state and country where each sample was collected (when available), as well as the references of each data used, are also presented.

Label/Species	NCBI ID	BOLD ID	State, country	Reference
<i>G. afuerae</i>	PP756688		Tumbes, Peru	This study
<i>G. afuerae</i>	PP756689		Tumbes, Peru	This study
<i>G. afuerae</i>	PP756690		Tumbes, Peru	This study
<i>G. afuerae</i>	PP756691		Tumbes, Peru	This study
<i>G. altavela</i>	KF808207		Zarzis, Tunisia	Iglesias et al. (2013)
<i>G. altavela</i>	KY176499	ANGBF13237	Hatay, Turkey	Yukes (2016)
<i>G. altavela</i>	MG703519	ANGBF47790	Brazil	Almeron-Souza et al. (2017)
<i>G. altavela</i>	MH379028	ANGBF47792	New Jersey, USA	Stoeckle et al. (2018)
<i>G. altavela</i>	MH379029	ANGBF47793	New Jersey, USA	Stoeckle et al. (2018)
<i>G. altavela</i>	MK085635	ANGBF47804	Brazil	Ferrete et al. (2019)
<i>G. altavela</i>	MK085712	ANGBF47806	Brazil	Ferrete et al. (2019)
<i>G. altavela</i>	MK085714	ANGBF47807	Brazil	Ferrete et al. (2019)
<i>G. altavela</i>	MK085716	ANGBF47807	Brazil	Ferrete et al. (2019)
<i>G. altavela</i>	MK085728	ANGBF47810	Brazil	Ferrete et al. (2019)
<i>G. altavela</i>	MK085748	ANGBF47811	Brazil	Ferrete et al. (2019)
<i>G. altavela</i>	MT455512		Virginia, USA	Aguilar et al. (2020)
<i>G. altavela</i>	MT455604		Virginia, USA	Aguilar et al. (2020)
<i>G. altavela</i>	MT455789		Virginia, USA	Aguilar et al. (2020)
<i>G. altavela</i>	MT455906		Virginia, USA	Aguilar et al. (2020)
<i>G. altavela</i>	MT456157		Virginia, USA	Aguilar et al. (2020)
<i>G. altavela</i>	MT757692	GBMNE35580	Santa Catarina, Brazil	Cruz et al. (2020)
<i>G. altavela</i>	MW322019	GBCOC7518	Brazil	Vilasboa et al. (2020)
<i>G. altavela</i>	OP440581	GBMNE56090	Mauritania	De la Hoz Schilling (2022)
<i>G. crebripunctata</i>	PP756686		Baja California Sur, Mexico	This study
<i>G. crebripunctata</i>	PP756687		Baja California Sur, Mexico	This study
<i>G. lessae</i>	MT455192		Virginia, USA	Aguilar et al., (2020).
<i>G. lessae</i>	MT455213		Virginia, USA	Aguilar et al., (2020).
<i>G. lessae</i>	MT455653		Virginia, USA	Aguilar et al., (2020).
<i>G. lessae</i>	MT456043		Virginia, USA	Aguilar et al., (2020).
<i>G. marmorata</i>		PHANT702-08	Baja California, Mexico	Caira (Unpublished)
<i>G. marmorata</i>	KF929941		California, USA	Bentley & Wiley (2013)
<i>G. marmorata</i>	GU440333		California, USA	Hastings & Burtin (2010)
<i>G. marmorata</i>	EU450655		California, USA	Gruenthal et al. (2008)

<i>G. marmorata</i>	PP756684		Baja California Sur, Mexico	This study
<i>G. marmorata</i>	PP756685		Baja California Sur, Mexico	This study
<i>G. micrura</i>	HQ575754		Campeche, Mexico	iBOL (2010).
<i>G. micrura</i>	HQ575767		Campeche, Mexico	iBOL (2010).
<i>G. micrura</i>	MG837934		Mexico D.F, Mexico	Sarmiento-Camacho & Valdez-Moreno (2018)
<i>G. micrura</i>	GU225294		Quintana Roo, Mexico	Valdez-Moreno et al. (2009).
<i>G. micrura</i>	MN105825	GBMNB8921	Pará, Brazil	Rodriguez-Filho et al. (2020)
<i>G. micrura</i>	MN105827	GBMNB8923	Pará, Brazil	Rodriguez-Filho et al. (2020)
<i>G. micrura</i>	MN105830	GBMNB8926	Pará, Brazil	Rodriguez-Filho et al. (2020)
<i>G. micrura</i>	MN105832	GBMNB8928	Pará, Brazil	Rodriguez-Filho et al. (2020)
<i>G. micrura</i>	MN105837	GBMNB8933	Pará, Brazil	Rodriguez-Filho et al. (2020)
<i>G. micrura</i>	MN105838	GBMNB8934	Pará, Brazil	Rodriguez-Filho et al. (2020)
<i>G. poecilura</i>	MW498634		Kedah, Malaysia	Zainal Abidin et al. (2021)
<i>Gymnura sp.</i>	MH194463	ANGBF47826	Peru	Marin et al. (2018)
<i>Gymnura sp.</i>	MH194465	ANGBF47827	Peru	Marin et al. (2018)

Bibliography

- Aguilar, R., Ogburn, M. B., Weigt, L. A., Driskell, A. C., Macdonald, K. S. & Hines, A. H. (2020). Chesapeake Bay Barcode Initiative (CBBI): Fishes of the greater Chesapeake Bay. Unpublished.
- Almeron-Souza, F., Sperb, C., Castilho, C. L., Figueiredo, P. I., Goncalves, L. T., Machado, R., Oliveira, L. R., Valiati, V. H. & Fagundes, N. J. (2017). Molecular Identification of Shark Meat From Local Markets in Southern Brazil Based on DNA Barcoding: Evidence for Mislabeling and Trade of Endangered Species. *Frontiers in Genetics*, 9, 10.3389/fgene.2018.00138
- Cruz V. P., Lima Adachi, A. M. C., Silva Ribeiro, G., Oliveira, P. H., Oliveira, C., Junior, R. O., Aché de Freitas, R. H. & Foresti, F. (2020). A shot in the dark for conservation: Evidence of illegal commerce in endemic and threatened species of elasmobranch at a public fish market in southern Brazil. *Aquatic Conservation Marine and Freshwater Ecosystem*, 31, 1650-1659
- De la Hoz Schilling, C. A. (2022). Past and present: Re-defining an elasmobranch community in Mauritania (West Africa) using eDNA metabarcoding. Unpublished.

- Ferrette, B. L. d. S., Domingues, R. R., Rotundo, M. M., Miranda, M. P., Bunholi, I. V., De Biasi, J. B., Oliveira, C., Foresti, F. & Mendonça, F. F. (2019). DNA Barcode Reveals the Bycatch of Endangered Batoids Species in the Southwest Atlantic: Implications for Sustainable Fisheries Management and Conservation Efforts. *Genes*, 10, 304. <https://doi.org/10.3390/genes10040304>
- Gruenthal, K. M., Ellison, C. K., Tat, C. A., Walker, H. J., Hastings, P. A. & Burton, R. S. (2008). Establishing a DNA Sequence Database for the Marine Fish Fauna of California. Unpublished
- Hastings, P. & Burton, R. S. (2010). Marine Fishes of California. Unpublished.
- iBOL (International Barcode of Life). (2010). iBOL Data Release. Unpublished.
- Iglesias, S. P., Mollen, F. H., Tetard, A. & Sellos, D. Y. (2013). Continuous taxonomic confusion of cryptic stingrays *Dasyatis tortonesei* and *D. pastinaca* in European Atlantic waters needs conservation consideration. <https://www.ncbi.nlm.nih.gov/nucore/KF808209.1>
- Marin, A., Serna, J., Robles, C., Ramirez, B., Reyes, E., Zelada, E., Sotil, G. & Alfaro, R. (2018). A glimpse into the genetic diversity of the Peruvian seafood sector: Unveiling species substitution, mislabeling and trade of threatened species. *PLoS ONE*, 13 (11), e0206596.
- Rodrigues Filho, L. F. S., Feitosa, L. M., Silva Nunes, J. L., Onodera Palmeira, A. R., Martins, A. P. B., Giarrizzo, T., Carvalho-Costa, L. F., Monteiro, I. L. P., Gemaque, R., Gomes, F., Souza, R. F. C., Sampaio, I. & Sales, J. B. L. Molecular identification of ray species traded along the Brazilian Amazon coast. *Fisheries Research*, 223, 105407.
- Sarmiento-Camacho, S. & Valdez-Moreno, M. (2018). DNA barcode identification of commercial fish sold in Mexican markets. *Genome* In press.
- Stoeckle, M. Y., Das Mishu, M. & Charlop-Powers, Z. (2018). GoFish: a streamlined eDNA presence/absence assay for marine vertebrates. Unpublished.
- Valdez-Moreno, M., Vasquez-Yeomans, L., Elias-Gutierrez, M., Ivanova, N. V. & Hebert, P. D. N. (2009). Using DNA barcodes to connect adults and early life stages of marine fishes from the Yucatan Peninsula, Mexico: potential in fisheries management. Unpublished
- Vilasboa, A., Lamarca, F., Solé-Cava, A., & Vianna, M. (2022). Genetic evidence for cryptic species in the vulnerable spiny butterfly ray *Gymnura altavela* (Rajiformes: Gymnuridae). *Journal of the Marine Biological Association of the United Kingdom*, 102(5), 345–349. <https://doi.org/10.1017/S002531542200056X>
- Yukes, M. B. (2016). DNA Barcoding of Marine Fish Species from Turkish Coastline. Unpublished.
- Zainal Abidin, D. H., Mohd. Nor, S. A., Lavoué, S., Rahim, M. A., Jamaludin, N. A. & Akib, N. A. M. (2021). DNA-based taxonomy of a mangrove-associated community of fishes in Southeast Asia. *Scientific Reports*, 11, 17800. <https://doi.org/10.1038/s41598-021-97324-1>